[534 539] No. 13. Kin Ngotonyi ɲolon loo
Enigma. The-queen your-mother middle outside-the-hut

enaishe na-nole ʼnjó
is-in-controlling the-which-confuse this.

Reply. E-ngíjo o'l-gorai enaipiai.
The-leg of-the-child which-is-being-carried.

When your mother leaves her hut, what is to be seen hanging from her garments? The leg of her child.

[[534] [689]] [Masai mothers carry their babies fastened on to their backs, and a small leg is often to be seen dangling down, while the child's body is hidden from view.]

No. 13. Kin Ngotonyi ɲolon loo
Enigma. The-queen your-mother middle outside-the-hut

enaishe
she-uses-elusive-language.

Reply. E-ngotonyiai enaɲilita en-nilgoro.
The-woman who-is-chewing the-grain.

Why does your mother use elusive language when she goes outside her hut? Because she is a woman eating gum.

[3:4 34] [Masai women are fond of chewing a gummy substance which exudes from certain trees. This causes their teeth stick together, and their jaws crack when they attempt to speak. If a person accosts them, and hears this noise, he may think the women are reviling him.]

No. 14. E-mooyot
Enigma. The-strip-of-hide-used-to-cover-the-heads-of-arrows

naakai kotok
which-is-wet point (*or* mouth *or* end).

Reply. Eng-olosi nole engare.
The-road which-goes the-water.

What is a strip of hide like when the tip is wet?
A road which leads to the water.

[411] [The poisoned heads of arrows are wrapped up in a strip of hide to keep the poison fresh. This strip is narrow and long, and is twisted at one end with sinews to make it adhere.

There is some play on the word *kotok*, which refers to the point of the arrow, the end of the strip of hide, and the mouth.]

No. 15. Elamu en-gay en-gíno, nailigwai
Enigma. It-has-eaten the-wife the-fire, and-it-leaves-thither

naikare.
which-is-done-together (*or* something).

1: Hollis G-5 (ca. 1894-1904) 1905
FL12 Masai FL12

3. Ol-merija. Kinye oloonyoki il-Tortilo e-mulyet oo'le-lua, ooinyadge 'l-mbrook loo-'l-Maasai.

4. Ol-dgurwa. Kinye tudye 'l-Maasai 'e-ngoro 'e-gijyua. Kuata oli e-muoro ang'i e-muata arukí oo-ailigoro aaeyuali 'kgorityok, oo-pujikitai 'mukuaia nudanye.

5. Ol-dgoriandua. E-oli 'l-dgoriandusi oore 'ne-ai'a are, el-dyiki 'e-jaukuri o el-likua tpujidie too ogiki 'maasi.

Ore ilio tpujidie na ainye ayoor le-dolye ngulye nate 'ng-oonunio oo 'muluri g' nuke ailua; kuke oo-nainyoro ngoty nuiko utja, nuturukitai.

Kinye oli 'e-dolye 'ng-uiroa too-'l-kighuroto arukí ajyio too-'e-gujit ilitoona e-muruna, kuke nagik uiki.

Kuiko ai utja 'l-muruna, kuke 'oo pikio nuiko utja, el-ajyio ilio.

4. Ol-kaqlusi ogik 'l-kgorityok il-kilusi pe ongwutja ilua ailgujuke; ainkuri oli 'e-gilio tooaroosi el-kikaua.

5. Ol-maqiriqiriania. Kinye ogik il-Maasai 'oo-kanak oo 'l-

3. *Acacia seyal* Del. and *Acacia horrida* Willd. The Dorobo obtain poison for their arrows from this tree, and Masai also purchase it from them. [824] [311] [337]

4. *Solanum* sp. With the thorns of this tree the Masai pierce their children's ears. The sap, called gum or frankincense, is chewed by women, and is used for mending the gourds when they break. [312] [313]

5. *Rubia cordifolia*, L., and *Plumbago zeylanica*, L. There are two plants called el-ngoriandus, from one of which a dye is obtained which is used for colouring the glossy red, whilst the other is used for tattooing. [326]

The latter kind is what girls like, and they tattoo themselves* with it on the forehead and the sides of the face to make themselves look beautiful; but it is only done by those who wish, it is not done by force. [304] [324]

Girls also scratch the skin of their bellies with thorns, or make incisions with gums round their navels, but they do not rub anything into these cuts.

Some warriors do this too, but only those who wish.

4. *Terminalia mollis*, Laws. The roots of this tree is used by the women for curing skins with. It is also given to cattle when they are suffering from gall fever. [324] [301]

5. *Lawsonia mollis*, Laws. The leaves and fruit of this plant are [302]

* An illustration of tattooing round a Masai woman's eyes is given in Dr. H. H. Johnston's book, p. 800. A somewhat similar instance of tattooing amongst the Lendilian is given in Baker's *The Albert Nyanza*, vol. i, p. 208. [313]

6:Thomson K-3 (1883-1884)1887
FL12 Masai FL12

The *Laiboni* is a warrior elected by a number of kraals as their captain or leader, with absolute power of life and death. He is their judge in cases of dispute. He directs their battles, though, curiously enough, he does not lead his men, but, like the general of a civilised army, he stands aside and watches the progress of the fight under the direct command of the *Laguenani*. If, however, he sees symptoms of his men wavering, he forthwith precipitates himself with his bodyguard into the battle. Of course he holds his office purely on sufferance, and if he fails to give satisfaction he is summarily deposed. This, indeed, is almost the only attempt at a form of government. Each war-district elects its own *Laiboni*. The *Laguenani*, again, is a very different personage. He is the public leader of a kraal, leads and guides the debate in cases of dispute. To be such eloquent and persuasive savages, the Masai are the most remarkable speakers and debaters imaginable. In some American novels we have the Indian lauded for his eloquence and dignity; but commend me to the Masai for grace and oratorical power, for order and decorum in debate; and, indeed, for most of the good qualities which in these days are conspicuous by their absence in our own Houses of Talking. Not that their genius in this line is always worthily applied; for in their fatal persistency in talking out a question they might even beat our Parliamentary Obstructionists. They will spend days discussing the most trivial matter—nothing, indeed, can be settled without endless talk. But we must proceed with our history.

The *Laiboni* and *Laguenani* having been elected, a raid to the coast was determined on. For a month they devoted themselves to an indispensable, though somewhat wearying, preparation. This consisted in their eating in small portions to the least, and then gorging themselves with beef. This they did under the belief that they were storing up a supply of muscle and ferocity of the most pronounced type. This strange process being finished, and the day fixed on, the women of the kraal went outside before sunrise, with grass dipped in the cream of a cow's milk. Then they danced and invoked Ngai for a favourable issue to the enterprise, after which they threw the grass in the direction of the enemy. The young men spent several hours at their devotions, howling out in the most hideous stentorian fashion, "*Amun Ngái-ái!* *Amun Mbarnáin!*" ("We pray to God! We pray to Mbarnáin!"). Previous to this, how-

14.Orr & Gilks D-4 (no date) 1931 FL.12 Masai (1/2).
Kikuyu FL.10
Kenya FL.1

(ii) *The Masai.*

The Masai are a pastoral tribe whose sole occupation is the tending of large herds of cattle, sheep and goats. It has been estimated that they have about 20 head of cattle, and twice as many sheep and goats, per head of the population.

The staple articles of diet are meat, milk, and blood. The blood is drawn from the living animal by puncture of the jugular vein with an arrow. Various roots and herbs are used to make infusions which are used either with boiled meat or with milk. The men, while in the "morus," or warrior class, subsist practically entirely on these articles of diet. The rest of the population, in addition to these four items, which form the main part of their food, eat also some beans, beans, millet, arrowroot, maize, sugar and honey, as these are available. The use of maize, which was introduced only a few years ago, is increasing.

For the greater part of the year there is an ample supply of meat, blood and milk, but in periods of severe drought, when, in spite of the large herds, the milk supply is inadequate, the consumption of these vegetable foods is increased, and even the "morus" may be compelled to supplement their meat and milk diet.

Berries are eaten by the warriors when on safari, *i.e.*, on hunting or fighting expeditions. It appears also to be customary to send the pregnant women into the bush to eat berries. The berries would make an insignificant contribution to the main constituents of the diet, but it is probable that they are of considerable importance as an antiscorbutic addition.

One section of the tribe, the Loitokitok, have adopted a freshly mixed diet. It is of interest that piles among the Masai is confined to this section, who use edible earths from various sources with their vegetable foods.

(ii) Chemical Composition of Native Foodstuffs, Edible Earths, and Mineral Waters.

The results of the chemical analysis of 182 samples of subsistence used in the dietary of the two tribes are given in Appendix I. Certain points of interest are discussed below.

(i) *Foodstuffs.*

In the following table a comparison is made between the analyses of the chief Kenya foodstuffs and analyses of similar products grown in other regions, probably in Europe or America, as quoted by Sherman (1920). All the figures are given as grams per 100 grams dry matter.

	Kenya Maize.	Maize.
Ca	·018	·011
P	·41	·30
Na	·038	·004
Cl	·05	·002
K	·42	·40

14 Orr & Gilks D-4 (no date) 1931 FL-12 Maasai FL-13
Kikuyu FL-10
Kenya FL-1

	Kenya Millet, Red	Kenya Millet, White	Millet, [illegible]
Ca	[illegible]	[illegible]	[illegible]
P	[illegible]	[illegible]	[illegible]
Mg	[illegible]	[illegible]	[illegible]
Cl	[illegible]	[illegible]	[illegible]
K	[illegible]	[illegible]	[illegible]

	Kenya Potatoes, [illegible]	Potatoes, [illegible]
Ca	[illegible]	[illegible]
P	[illegible]	[illegible]
Mg	[illegible]	[illegible]
Cl	[illegible]	[illegible]
K	[illegible]	[illegible]

	Kenya Leaves, [illegible]	Cabbage, [illegible]	Spinach, [illegible]
Ca	[illegible]	[illegible]	[illegible]
P	[illegible]	[illegible]	[illegible]
Mg	[illegible]	[illegible]	[illegible]
Cl	[illegible]	[illegible]	[illegible]
K	[illegible]	[illegible]	[illegible]

	Kenya Plantains and Bananas, [illegible]	Bananas, [illegible]
Ca	[illegible]	[illegible]
P	[illegible]	[illegible]
Mg	[illegible]	[illegible]
Cl	[illegible]	[illegible]
K	[illegible]	[illegible]

It appears at once that the phosphorus content of the foodstuffs is approximately the same throughout. Potassium tends to be slightly higher in the Kenya foods and is definitely higher in red millet. Chlorine is high in the Kenya leaves and red millet, and approximately the same in the other foods. Calcium is low in maize and bananas, about equal in white millet, but considerably higher in red millet and green leaves. Sodium is low throughout. The high calcium and chlorine content of the Kenya leaves is striking. Indeed, the percentage of calcium in some of the leaves is higher than that previously recorded for any natural foodstuff. Hence, any considerable addition of leaves to a diet of cereals and potatoes or plantains would tend to correct the deficiency of these foods in calcium. In this connection it is interesting to observe that a selective preference for particular leaves appears to exist. From the observations in the field and the replies to the questionnaire, it has been possible to classify the leaves analysed according as they are commonly used by men and women, by women alone, or by women in time of famine only.

TABLE V.—*Cattle Cambs.*

Percentages on Dry Matter.

Area.	Source.	Nitrogen.	Total ash.	Acid in ash.	Calcium.	Sodium.	Potassium.	Phosphorus.	Chlorine.	Iron.
Kikuyu Reserve: Nyeri Area										
West of Nyeri Area										
Nyeri Area										
Fort Hall Area										
Meru Reserve:										
	Average of 15 samples									
	Digest cents									

14 Orr & Gilks D-4 (no date) 1931 FL12 Masai FL13
Kikuyu FL10
Kenya FL1

As might be expected from the nature of the material, the edible cattle show considerable variation according to the area from which they are obtained. On the whole, the two elements which occur in the highest amount in these substances are sodium and iron. At the same time, they have a much higher percentage of calcium than phosphorus, the reverse of what the foodstuffs show. The majority of the edible cattle are heavily loaded up with silica, the average percentage of ash insoluble in acid being 56 per cent. of the dry matter. Two of the edible cattle, namely, that from Kisumu, and the ox, Gi Dogol, from a special part of the district, south of the Mongo-Lumbwa road, would make fair substitutes for Magadi salt, by virtue of their sodium content.

TABLE VI.—*Milks.*

	Per 100 c.c.			Per 1,000 calories.	
	Kenya.		British.	Kenya.	British.
	Av. of 10 samples.	Range.	Average.		
Total solids	10·77	10·63–10·98	10·66		
Nitrogen	0·599	0·488–0·668	0·548		
Sugar	4·62	3·60–5·43	4·80		
Fat	3·48	2·43–3·99	3·36		
Ash	0·729	0·607–0·772	0·704	0·56	0·57
Calcium	0·139	0·104–0·148	0·135	1·47	1·76
Sodium	0·107	0·078–0·148	0·098	0·43	0·80
Potassium	0·143	0·131–0·156	0·168	1·63	2·40
Phosphorous	0·092	0·079–0·107	0·106	1·08	1·42
Chlorine	0·095	0·072–0·106	0·111	1·08	1·08
Iron	0·00003	0·00002–0·00005	0·00008	0·0008	0·0014

The Kenya milks are, on the average, richer in protein, fat and sugar than British samples, but poorer in ash and all its constituents with the exception of calcium. This poverty is accentuated if the comparison is made on the basis of 1,000 calories as supplied by the milk and then the Kenya milk shows up as deficient in calcium.

Bearing in mind that the milk yield of the native cows is as a rule very low, (4lb.–6lb. pulses per annum), on the basis of Dr. Tocher's figures for variation in the composition of milk, it would have been impossible to expect the Kenya milk to be richer in fat, protein and ash than the British, but poorer in sugar. This is actually true for the fat and protein, but not for the ash and sugar. Similarly certain results, as yet unpublished, obtained at the Kenya Veterinary Laboratory, indicate that with a low milk yield, the calcium, potassium and phosphorus percentages might be expected to be low, but the sodium and chlorine high. The results for calcium, sodium and chlorine do not agree with this supposition.

TABLE VII.—*Factors Found by Milk Cows.*

Percentages in Dry Matter.

	Average of 17 samples. Per cent.	Range. Per cent.
Nitrogen	0·69	0·57– 1·09
Total ash	0·81	0·68– 0·91
Acid sol. ash	0·48	1·48– 0·59
Calcium	0·16	0·12– 0·21
Sodium	0·08	0·06– 0·07
Potassium	0·01	0·09– 1·15
Phosphorus	0·11	0·09– 0·14
Chlorine	0·01	0·07– 0·08

[illegible] /

words and blows by the assembled workers, because they did not
owe their son to have the harrowing and self-control necessary for
a warrior, while the wedding is recited for a long time afterwards
as either a coward, or worse a the last one. After the circumcision
all the men of the neighborhood gather in the kraal, where they are
regaled with mare and honey beer by the fathers of the sons just
circumcised, after the latter have kindled a fire with juniper twigs
(Juniperus procera). The festival is called [illegible], that is, the festival of the circumcised boys. Unfortunately amounts (1)

1. I once observed that my four eldest boys together at an evening meal ate over 40 pounds of lean meat.

of raw or half-cooked meat slightly roasted at the open fire as customary in the daytime time by the excited men and women, whereas the warriors neither eat meat nor drink honey beer, but only take some fresh milk. People join and laugh and encourage anew to wear to outdance the others. The warriors boast of alleged heroic deeds in former wars and discuss the prospects of the men circumcised that day on their first military expedition, which will perhaps take them to this or that region, where they themselves had made an attack only a short time before. The fathers dream of their sons' future heroic deeds and are happy at the thought of the rich booty with which the budding warriors will augment the personal herds. Suddenly the glances of a few who had just been joking darken and turn toward a distant hut or where their a solitary old man is sitting. They jump up and go toward him with quick steps. The angry expression on their faces quenches their rough and abruptly severed invectives and threats, to which one hears the reproaches that the old man has brought up his son to be a weak coward, who during the circumcision betrayed his pain by a retorting of facial muscles and a half-suppressed groan, which they, however, jestingly compare to the roar of pain of a bull being cut. The old man has quickly fled from their reproaches into his hut, and his attackers now their wrath on the great bottles of honey beer left standing, which they empty over and